

REMARKS

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claims 28-30 and 35-44 are pending in the application. Claim 28 has been amended to better define the claimed invention. New claims 35-44 readable on the elected invention/species and corresponding to previously presented claims 26-27, 31-34, 19, 21-23 have been added to provide Applicants with the scope of protection to which they are believed entitled. The amended/new claims find solid support in the original specification and drawings, especially paragraph 0050 and FIG. 7. No new matter has been introduced through the foregoing amendments.

The new *35 U.S.C. 103(a)* rejection of claims 28-30 as being obvious over *Hideo* in view of *Welch* is noted. Applicants respectfully traverse the rejection for the following reason.

Welch discloses a control system in FIG. 3 for controlling the torque applied by motor 13 (FIG. 2) to pull roll 12. The purpose of the pull roll torque control is to prevent slippage. *Welch* at column 4 line 46. The torque of the pull roll is gradually increased during an identification/calibration phase, wherein the web is not severed or cut, to determine a slippage torque value. *See Welch* at column 4 lines 24-26, column 5 lines 14, 17-18 and 55. The cutting process will then be performed at a pull roll torque below the slippage torque to avoid slippage. *Welch* at column 2 lines 23-25.

It should be noted that the entire disclosure of *Welch* is directed to the control of the torque of the pull roll 12. The reference is completely silent on whether the torque of the cutting knife cylinders 11 is controlled or at all varied, or not.

A person of ordinary skill in the art learning of the teachings of *Welch* would not have varied/controlled the torque applied to the *Hideo* cutting knife cylinders 2-3 because *Welch* neither teaches nor suggests controlling the torque of cutting knife cylinders. The reference only teaches controlling the torque of pull rolls 12 which are completely different from the cutting knife cylinders 11 of *Welch* or the cutting knife cylinders 2/3 of *Hideo*.

The person of ordinary skill in the art would have been motivated, if at all, only to vary the torque of any pull rolls that *Hideo* might have disclosed, for the very same reason of preventing slippage as disclosed by *Welch*. However, such modification would not result in any variation or control of the torque applied to the cutting knife cylinders 2/3 of *Hideo*. As a result, the combination would fail to teach or suggest all claim features, especially the last paragraph of independent claim 28.

In summary, the Office's obviousness rationale is inappropriate because:

1. The *Welch* teaching of the torque of pull rolls 12 (which are arranged to pull the web) is irrelevant to the torque of cutting knife cylinders (which are arranged to cut the web) as disclosed in *Hideo* or claimed in the instant application.
2. A person of ordinary skill in the art would not have been motivated to control the torque of the *Hideo* cutting knife cylinders 2-3 as proposed in the Office Action, because *Welch* does not teach or suggest any desirability of controlling the torque of cutting knife cylinders.
3. A person of ordinary skill in the art would have been motivated, if at all, only to control the torque of any pull rolls that *Hideo* might have disclosed, which, however, does not arrive at the claimed invention.

Accordingly, Applicants respectfully submit that the obviousness rejection as manifested in the Office Action is inappropriate and should be withdrawn.

Notwithstanding the above and solely for the purpose of expediting prosecution, Applicants have further amended independent claim 28 to clarify that the time period when the torque component T_{xa} or T_{xb} is varied is the cutting period from a cutting start time (t_c) to a cutting completion time (t_o). The claim feature finds support in at least FIG. 7 and paragraph 0050. An advantage of certain embodiments of the claimed invention has been disclosed in the specification at paragraph 0053 (Clean Substitute Specification filed June 17, 2008), i.e., accurate cutting at high speed can be obtained.

As discussed above, *Welch* does not at all teach or suggest varying or controlling the torque of cutting knife cylinders. The reference also fails to teach or suggest varying or controlling the torque of cutting knife cylinders during the cutting period as presently claimed. In *Welch* the torque of the pull rolls 12 is varied not during a cutting period, but during an identification/calibration phase where the web is not cut or severed. *See Welch* at column 4 lines 24-26, column 5 lines 14, 17-18 and 55. Therefore, *Welch* fails to teach or suggest not only the claimed element (i.e., cutting knife cylinders) whose torque is to be varied/controlled but also the time period during which the claimed cutting knife cylinders' torque is to be varied. The combination of *Welch* and *Hideo* would also lack the now claimed feature.

It should be now clear that

4. *Welch* fails to teach or suggest that the time period during which the cutting knife cylinders' torque is to be varied is the cutting period.
5. The reference alone or in combination with *Hideo* would fail to achieve the advantage of certain embodiments of the claimed invention disclosed in the specification, i.e., accurate cutting at high speed can be obtained.

As discussed above at sections 1-5, since *Welch* is not combinable with *Hideo*, fails to teach or suggest the claimed cutting period during which the torque of the cutting knife cylinders is varied, and does not seem to be able to achieve the disclosed high-speed yet accurate cutting advantage of certain embodiments of the claimed invention, the applied references do not render obvious the invention of amended independent claim 28.

Withdrawal of the rejection of independent claim 28 is now believed appropriate and therefore respectfully requested.

The dependent claims, including any new claim(s), are considered patentable at least for the reason(s) advanced with respect to the respective independent claim(s).

Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

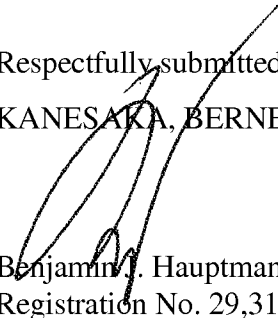
The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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